

Appl. No. 10/676,397  
Docket No. 9047MQ  
Amdt. dated 02/08/2007  
Customer No. 27752

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## REMARKS

### Claim Status

Claims 1-6 and 17-18 are pending in the present application. No additional claims are believed to be due.

Claims 7-8 have been cancelled.

Claims 9-16 have been withdrawn as a result of an earlier restriction requirement.

Claim 1 has been amended to remove the limitation of a cationic charge biasing species. Support for this amendment is found in originally presented Claim 7; page 5 lines 3-7 of the Specification.

Claim 4 has been amended to remove the limitation that there is from about 0.1% to about 10% of highly refined pulp. Support for this amendment is found in originally presented Claim 4; page 6, line 14 of the Specification.

Claim 18 has been added to recite from about 0.1 kg/ton to about 2 kg/ton of a cationic charge biasing species; wherein the cationic charge biasing species is a low molecular weight cationic synthetic polymer having a molecular weight of no more than about 500,000. Support for this amendment is found in previously presented Claim 1 and on p. 7, lines 7-10 of the Specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

### Rejection Under 35 U.S.C. §103(a) over U.S. Patent No. 5,810,972

Claims 1-6 and 17-18 stand rejected under 35 USC §103(a) over U.S. Patent No. 5,810,972 (hereinafter "Reinheimer"). This rejection is traversed on the ground that the Office Action has failed to establish a *prima facie* case of obviousness because Reinheimer does not teach, suggest, or make obvious all of the Applicants' claimed limitations. *In re Fine*, 837 F.2d 1071, 5 USPQ.2d (BNA) 1596 (Fed. Cir. 1988).

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Claim 1: Amount of Xylan Added

Claim 1 recites, *inter alia*, from about 0.005% to no more than 0.1% (by weight) of xylan added to the furnish. Reinheimer discloses adding Xylan to the furnish but at levels that are much higher than is claimed.

The Office Action notes that although Reinheimer teaches when xylan is used as the sole hemicellulose source, the amount Reinheimer discloses is outside of the Applicants' claimed range (Office Action dated December 20, 2006, p. 3). Specifically, Reinheimer discloses adding a dry weight percentage of 0.15% to 1.5% of xylan to the pulp (Reinheimer, Col. 4, lines 20-21; Claim 13). As noted, this amount is above the range claimed by the Applicants.

The Office Action further posits that when xylan is added in the form of birch pulp the amount of xylan added then falls within the range of the Applicants' claim. (Office Action dated December 20, 2006, p. 3). Specifically, the Office Action refers to the disclosure that a dry weight percentage of 1% to 6% of birch pulp is added to the furnish as a xylan-containing hemicellulose additive. (Reinheimer, Claims 10 and 11). However, the Applicants submit that it is known in the art that birch pulp have approximately 25% to 35% xylan (Specification, p. 6, lines 11-12) and that taking the minimum and maximum limits that are inherent from the disclosure in Reinheimer:

$$25\% \times 1\% = 0.25\% \text{ (minimum)}$$

$$35\% \times 6\% = 2.1\% \text{ (maximum)}$$

Reinheimer therefore discloses adding approximately 0.25% to 2.1% of xylan via addition of birch pulp which is well above the Applicants' claimed range of from about 0.005% to no more than 0.1% as recited in Claim 1.

Therefore Reinheimer discloses a significantly higher range of xylan than is claimed. In other words, Reinheimer fails to teach, suggest, or disclose the claimed range of xylan as is claimed by the Applicants.

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Claim 18: Cationic Fixing Species

Claim 18 recites, *inter alia*, a cationic charge biasing species having a molecular weight of no more than about 500,000 and that this cationic charge biasing species be present in the level of from about 0.1 kg/ton to about 2 kg/ton. It is well settled that to establish a prima facie case of obviousness, the Office must show "some **objective teaching** in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." In re Fine, 837 F.3d 1071, 1074, 5 U.S.P.Q.3d (BNA) 1596, 1598 (Fed. Cir. 1988) (emphasis added).

No where in Reinheimer is there any disclosure that the charge biasing species is a low molecular weight cationic synthetic polymer (no more than about 500,000), nor is there any disclosure of the specified range of cationic charge biasing species as is claimed by the Applicants.

The Applicants respectfully submit that the combination of a molecular weight limitation as well as a formulation limitation are well beyond the scope of merely optimizing results as limited by 35 U.S.C. §103(a). It has been held improper for the Office to argue that one of skill in the art would "try varying every parameter of a system in order to optimize the effectiveness of the system even if there is no evidence in the record that the prior art recognized that particular parameter affected the result. As [the court has] said many times, obvious to try is not the standard of 35 USC 103 ... [d]isregard for the unobviousness of the results of "obvious to try" experiments disregards the "invention as a whole" concept of §103." In re Antonie, 559 F.2d 618, 620, 195 USPQ 6, 8 (C.C.P.A. 1977).

Therefore, because Reinheimer does not provide any teaching, suggest or motivation for one of ordinary skill in the art to make a product with from about 0.1 kg/ton to about 2 kg/ton of a cationic charge biasing where the cationic charge biasing species has a molecular weight of no more than 500,000, the Applicants respectfully request removal of the obviousness rejection.

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Conclusion

In light of the above remarks, it is requested that the Examiner reconsider and withdraw the rejection under 35 U.S.C. §103(a).

This response represents an earnest effort to place the application in proper form and to distinguish the invention as now claimed from the applied reference. In view of the foregoing, reconsideration of this application and allowance of Claims 1-6 and 17-18 are respectfully requested.

Respectfully submitted,

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